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10/586,478	07/18/2006	Tetsuya Ogata	R2184.0525/P525	4172

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EXAMINER	
FISCHER, MARK L	

ART UNIT	PAPER NUMBER
2627	

MAIL DATE	DELIVERY MODE
12/17/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/586,478	OGATA, TETSUYA	
	Examiner	Art Unit	
	Mark Fischer	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 October 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8 and 10-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8 and 10-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to the Amendment filed on October 15, 2009.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-4, 13-15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al. (U.S. Pat. No. 6,563,099 B2, hereinafter Kimura) in view of Ohsato et al. (U.S. Pat. No. 4,631,397, hereinafter Ohsato).

Regarding claim 1, Kimura discloses (Fig. 1) an optical pickup apparatus for shining light on an optical disk (501) having two recording layers and for detecting reflected light from the optical disk, comprising: a light source (1) configured to shine the light on the optical disk; an optical system situated on a path of a light beam returning from the optical disk inclusive of light reflected by a first recording layer (Fig. 7, 511) of the optical disk and light reflected by a second recording layer (Fig. 7, 512) of the optical disk, said optical system including: a light condensing optical unit (43) to turn the returning light beam into a condensing light beam; and a light beam regulating unit (22) to extract from the condensing light beam a partial-cross-section light beam corresponding to part of a cross section of the condensing light beam; and one or more photo detectors (53), situated between a first position where the light reflected by the first recording layer contained in the partial-cross-section light beam is condensed and a second position where the light reflected by the second recording layer contained in the partial-cross-section light beam is condensed (see Fig. 7, where it is well-known that the actual position at which 81 is condensed may be located after the surface of 53, as taught by Ohsato (see Fig. 3B of Ohsato)), said one or more photo detectors having a first photo detecting section (532) to detect the light reflected by the first recording layer (see Fig. 8, element 81) and a second photo detecting section (534) to detect the light reflected by the second recording layer (see Fig. 9, element 84), and the first and second positions being spaced apart from each other along an optical axis of the light condensing optical unit (see Fig. 7), wherein substantially no light

reflected by the first recording layer reaches the second photo detecting section (see Fig. 9, 534 only receives light 84), and substantially no light reflected by the second recording layer reaches the first photo detecting section (see Fig. 8, 532 only receives light 81) that is adjacent to the second photo detecting section (532 and 534 are near/close to each other but not necessarily touching, which fits the definition of adjacent), the light shone by the light source on the optical disk being focused on one of the first recording layer and the second recording layer (see Fig. 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kimura with Ohsato with the motivation to place the photodetector at a well-known positioning that will yield a properly focused light beam.

Regarding claim 2, Ohsato discloses a light beam regulating unit that is a light splitting unit (Fig. 1, element 7) configured to split a condensing light beam into a plurality of light beams (see Fig. 3), said partial-cross-section light beam corresponding to at least one of the plurality of light beams.

Regarding claim 3, Ohsato discloses (see Fig. 3) that the plurality of light beams includes a first light beam and a second light beam (as seen as the light between elements 7 and 8), and said one or more photo detectors (8A-8D) includes: a first photo detector (8A-8B) having a photo detecting section to detect the light reflected by the first recording layer contained in the first light beam and a photo detection section to detect the light reflected by the second recording layer contained in the first light beam (already disclosed by Kimura); and a second photo detector (8C-8D) having a photo detecting section to detect the light reflected by the first recording layer contained in the second light beam and a photo detection section to detect the

light reflected by the second recording layer contained in the second light beam (already disclosed in Kimura).

Regarding claim 4, Ohsato discloses that the light splitting unit (7) is a light splitting prism (as seen in Fig. 3, element 7).

Regarding claim 13, Kimura discloses an optical disc apparatus for reproducing information from an optical disk having two recording layers, comprising: the optical pickup apparatus of claim 1 (see rejection of claim 1); and a signal obtaining unit (64) configured to obtain a signal from a selected one of the two recording layers of the optical disk in response to an output signal of the optical pickup apparatus and a reproducing unit (605) configured to reproduce the information based on the signal obtained by the signal obtaining unit (Col. 11, lines 15-17).

Regarding claim 14, Kimura discloses that the signal obtaining unit is configured to select an output signal inclusive of only the signal from the selected one of the two recording layers among output signals of the optical pickup apparatus (obvious from Figs. 8 and 9).

Regarding claim 15, Kimura discloses that the signal obtaining unit is configured to subtract a signal component corresponding to another one of the two recording layers from the output signal of the optical pickup apparatus (obvious from Fig. 1 , element 64).

Regarding claim 19, Kimura discloses (Fig. 1) an optical pickup apparatus for shining light on an optical disk (501) having two recording layers and for detecting reflected light from the optical disk, comprising: a light source (1) configured to shine the light on the optical disk: an optical system situated on a path of a light beam returning from the optical disk inclusive of light reflected by a first recording layer (Fig. 7, 511) of the optical disk and light reflected by a

second recording layer (Fig. 7, 512) of the optical disk, said optical system including: a light condensing optical unit (43) to turn the returning light beam into a condensing light beam; and a light beam regulating unit (22) to extract from the condensing light beam a partial-cross-section light beam corresponding to part of a cross section of the condensing light beam not exceeding half of the cross section as divided by a straight line passing through a center of the cross section; and one or more photo detectors (53), situated between a first position where the light reflected by the first recording layer contained in the partial-cross-section light beam is condensed and a second position where the light reflected by the second recording layer contained in the partial-cross-section light beam is condensed (see Fig. 7, where it is well-known that the actual position at which 81 is condensed may be located after the surface of 53, as taught by Ohsato (see Fig. 3B of Ohsato)), said one or more photo detectors having a first photo detecting section (532) to detect the light reflected by the first recording layer and a second photo detecting section (534) to detect the light reflected by the second recording layer, and the first and second positions being spaced apart from each other along an optical axis of the light condensing optical unit (see Fig. 7), wherein substantially no light reflected by the first recording layer reaches the second photo detecting section (see Fig. 9, 534 only receives light 84), and substantially no light reflected by the second recording layer reaches the first photo detecting section (see Fig. 8, 532 only receives light 81) that is adjacent to the second photo detecting section (532 and 534 are near/close to each other but not necessarily touching, which fits the definition of adjacent), the light shone by the light source on the optical disk being focused on one of the first recording layer and the second recording layer (see Fig. 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kimura with Ohsato with the

motivation to place the photodetector at a well-known positioning that will yield a properly focused light beam.

6. Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura in view of Ohsato further in view of Inoue et al. (U.S. Pat. No. 5,161,139, hereinafter Inoue).

Regarding claim 5, Kimura in view of Ohsato does not explicitly disclose that the light splitting unit is a hologram having a first hologram area and a second hologram area, the first light beam being diffraction created by the first hologram area, and the second light beam being diffraction created by the second hologram area. However, Inoue discloses that the light splitting unit is a hologram (Fig. 31, element 128) having a first hologram area (128A) and a second hologram area (128B), the first light beam being diffraction created by the first hologram area, and the second light beam being diffraction created by the second hologram area. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kimura in view of Ohsato with Inoue with the motivation to replace the prism (7) of Ohsato with the hologram of Inoue because it is another well-known method of beam splitting.

Regarding claim 6, Inoue discloses that the first light beam and the second light beam are diffractions of different orders (see Fig. 33 in which diffracted light has different angles).

Regarding claim 7, Inoue discloses that the first hologram area and the second hologram area have respective, different lens functions (obvious because the first hologram area (128A) produces one beam while the second hologram area (128B) creates another beam as seen in Fig. 31).

Regarding claim 8, Inoue discloses that the first light beam and the second light beam are diffractions of an identical order (see Fig. 31 in which diffracted light has the same angle).

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura in view of Ohsato further in view of Ogasawara (US Pub. No. 2005/0094507 A1).

Regarding claim 10, Kimura in view of Ohsato does not explicitly disclose a drive unit configured to drive the light condensing unit in a direction of an optical axis of the light condensing unit. However, Ogasawara (US Pub. No. 2005/0094507 A1) discloses a light condensing unit (Fig. 13, element 42) being driven in a direction of an optical axis of the light condensing unit. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Ogasawara into the apparatus of Kimura in view of Ohsato in order to compensate for spherical aberration of all layers of the recording medium.

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura in view of Ohsato further in view of Magnitski et al. (US Pat. No. 6,522,616 B1, hereinafter Magnitski).

Regarding claim 11, Kimura in view of Ohsato does not explicitly disclose a drive unit configured to drive the one or more photo detectors in a direction of an optical axis in respect of a photo detecting surface of the one or more photo detectors. However, Magnitski discloses a photosensor moved along the Z axis (i.e. optical axis) (Col. 4, line 62 to Col. 5, line 3) where it is well-known that a drive unit are used to drive optical elements in an optical system where in this case the optical element is the photosensor. It would have been obvious to one of ordinary skill

in the art at the time the invention was made to incorporate the teachings of Magnitski into the apparatus of Kimura in view of Ohsato in order to improve the focus control operation even when the recording medium has multiple readable layers.

9. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura in view of Ohsato further in view of Tada et al. (US Pat. No. 6,480,444 B2, hereinafter Tada).

Regarding claim 12, Kimura in view of Ohsato does not explicitly disclose an opto-electrical device having a refractive index changing in response to an applied voltage, the opto-electrical device situated on a path of the condensing light beam traveling from the light condensing unit. However, Tada discloses an opto-electrical device (305) having a refractive index changing in response to an applied voltage (Col. 5, lines 32-48), the opto-electrical device situated on a path of the condensing light beam traveling from a light condensing unit (302). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Tada into the apparatus of Kimura in view of Ohsato in order to improve the focus control even when the recording medium has multiple readable layers.

10. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura in view of Ohsato further in view of Ogasawara furthermore in view of Maeda et al. (US Pat. No. 6,442,125 B1, hereinafter Maeda).

Regarding claim 16, Kimura in view of Ohsato further in view of Ogasawara discloses an optical disc apparatus for reproducing information from an optical disk having two recording layers, comprising: the optical pickup apparatus of claim 10 (see rejection of claim10); a drive

control unit configured to control the drive unit in response to a signal indicative of which one of the two recording layers is selected for reproduction (¶ [0057]). However, Kimura, Ohsato, and Ogasawara in combination do not explicitly disclose a signal selecting unit configured to select an output signal inclusive of only a signal from the selected one of the two recording layers among output signals of the optical pickup apparatus; and a reproducing unit configured to reproduce the information based on the signal selected by the signal selecting unit. Maeda discloses a signal selecting unit configured to select an output signal inclusive of only a signal from the selected one of the two recording layers among output signals of the optical pickup apparatus (see Abstract and Col. 6, lines 47-56); and a reproducing unit configured to reproduce the information based on the signal selected by the signal selecting unit (Col. 1, lines 55-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Maeda into the apparatus of Kimura in view of Ohsato further in view of Ogasawara in order to obtain a clean reproduced signal from a selected layer of the multi-layer disk of Kimura without undesired interference from other layers.

11. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura in view of Ohsato further in view of Magnitski furthermore in view of Tada even furthermore in view of Maeda.

Regarding claim 17, Kimura in view of Ohsato further in view of Magnitski discloses an optical disc apparatus for reproducing information from an optical disk having two recording layers, comprising: the optical pickup apparatus of claim 11 (see rejection of claim 11). Kimura in view of Ohsato further in view of Magnitski does not explicitly disclose a drive control unit

configured to control the drive unit in response to a signal indicative of which one of the two recording layers is selected for reproduction. However, Tada discloses a drive control unit configured to control a drive unit in response to a signal indicative of which one of the two recording layers is selected for reproduction (Col. 28, lines 39-46). Kimura in view of Ohsato further in view of Magnitski furthermore in view of Tada does not explicitly disclose a signal selecting unit configured to select an output signal inclusive of only a signal from the selected one of the two recording layers among output signals of the optical pickup apparatus; and a reproducing unit configured to reproduce the information based on the signal selected by the signal selecting unit. However, Maeda discloses a signal selecting unit configured to select an output signal inclusive of only a signal from the selected one of the two recording layers among output signals of the optical pickup apparatus (see Abstract and Col. 6, lines 47-56); and a reproducing unit configured to reproduce the information based on the signal selected by the signal selecting unit (Col. 1, lines 55-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the movable photosensors of Kimura in view of Ohsato further in view of Magnitski with the driving control of Tada with the motivation to accommodate for a change in focal length with respect to a selected recording layer using a different optical element but while maintaining the same control configuration; and to combine the teachings of Kimura in view of Ohsato further in view of Magnitski furthermore in view of Tada with Maeda with the motivation to be able to obtain a clean reproduced signal from a selected layer of the multi-layer disk of Kimura without undesired interference from other layers.

12. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura in view of Ohsato further in view of Tada furthermore in view of Maeda.

Regarding claim 18, Kimura in view of Ohsato further in view of Tada discloses an optical disc apparatus for reproducing information from an optical disk having two recording layers, comprising: the optical pickup apparatus of claim 12 (see rejection of claim 12). Tada discloses a switching unit configured to control the refractive index of the opto-electrical device (305) in response to a signal indicative of which one of the two recording layers is selected for reproduction (Col. 28, lines 39-46). Kimura in view of Ohsato further in view of Tada does not explicitly disclose a signal selecting unit configured to select an output signal inclusive of only a signal from the selected one of the two recording layers among output signals of the optical pickup apparatus; and a reproducing unit configured to reproduce the information based on the signal selected by the signal selecting unit. However, Maeda discloses a signal selecting unit configured to select an output signal inclusive of only a signal from the selected one of the two recording layers among output signals of the optical pickup apparatus (see Abstract and Col. 6, lines 47-56); and a reproducing unit configured to reproduce the information based on the signal selected by the signal selecting unit (Col. 1, lines 55-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kimura in view of Ohsato further in view of Tada with Maeda with the motivation to be able to obtain a clean reproduced signal from a selected layer of the multi-layer disk of Kimura without undesired interference from other layers.

Response to Arguments

13. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection and new interpretation of the prior art presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Fischer whose telephone number is (571) 270-3549. The examiner can normally be reached on Monday-Friday from 9:00AM to 6:30PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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